AD-A067 056 NAVAL UNDERSEA WARFARE CENTER SAN DIEGO CALIF F/G 17/1
TRANSDUCER CALIBRATION DATA. XU 1313/BQM SERIAL NUMBERS 22 AND --ETC(U)
FEB 68

UNCLASSIFIED NUWC-5688 NL

1 OF 1
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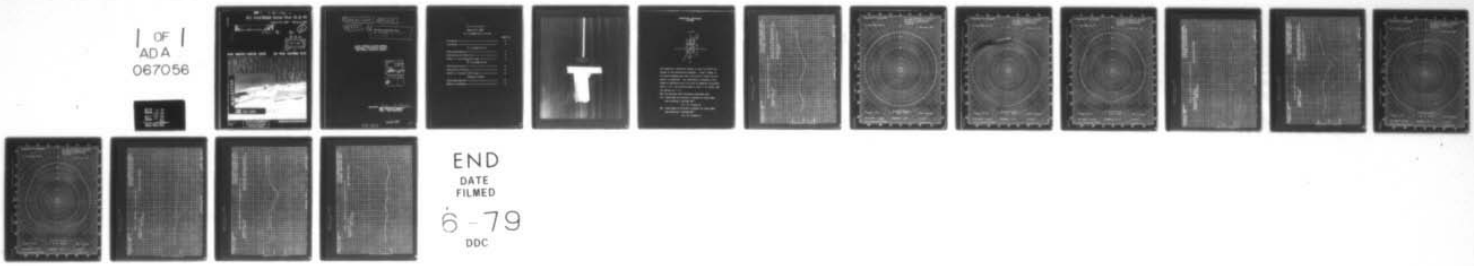
067056



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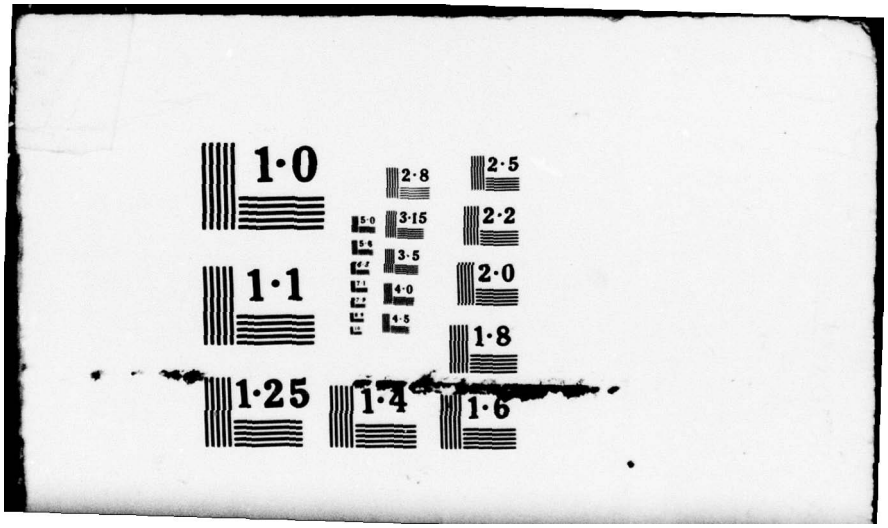
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LEVEL II MOST Project - 4

XU 1313/BQM Serial Nos. 22 & 59

Report No. 5688 February 1968

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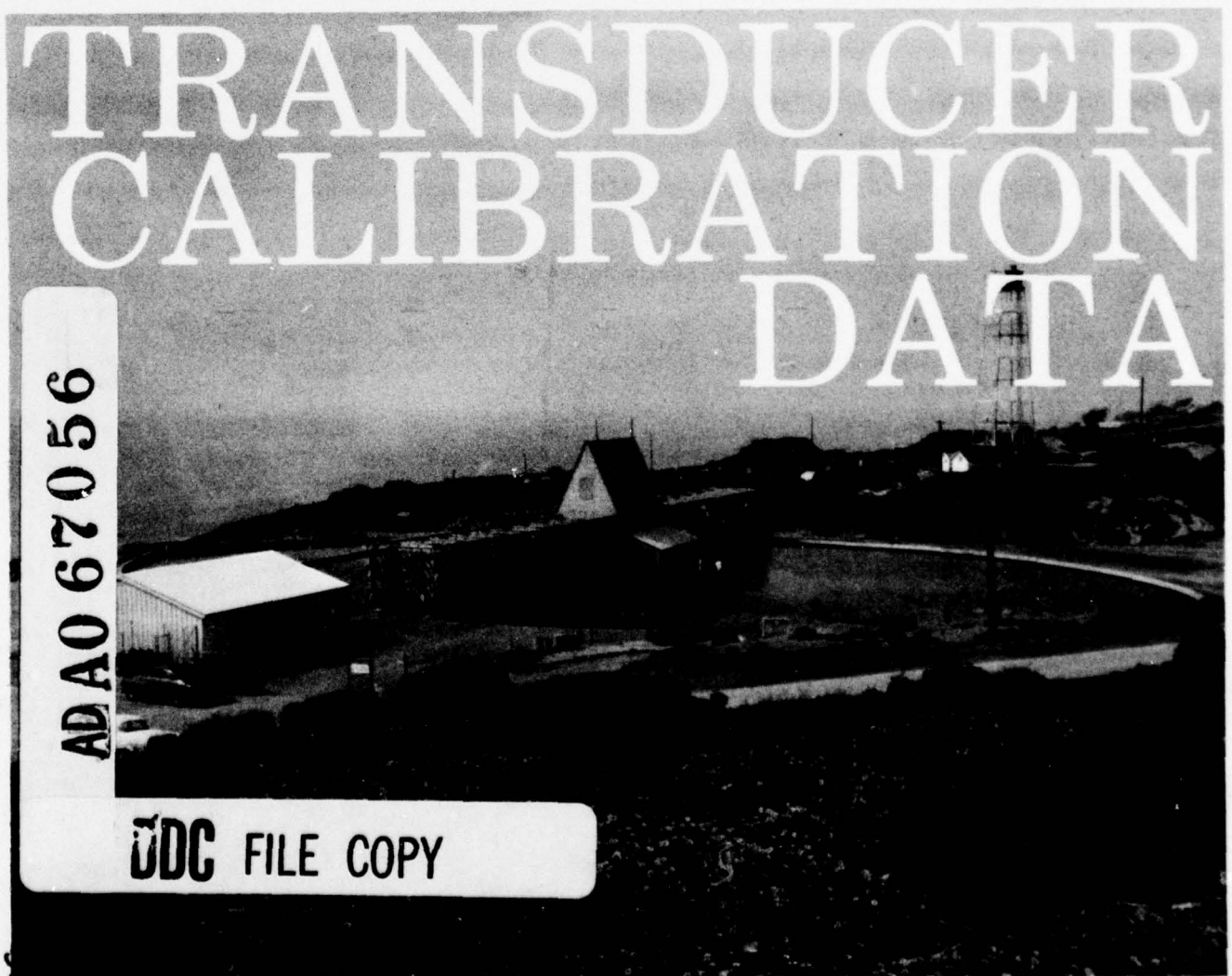
TRANSDUCER CALIBRATION DATA



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(12) 16p. (6) Transducer Calibration Data, XU 1313/BQM Serial Numbers 22 and 59.

NAVAL UNDERSEA WARFARE CENTER
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San Diego, California 92152

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Report No. 5688

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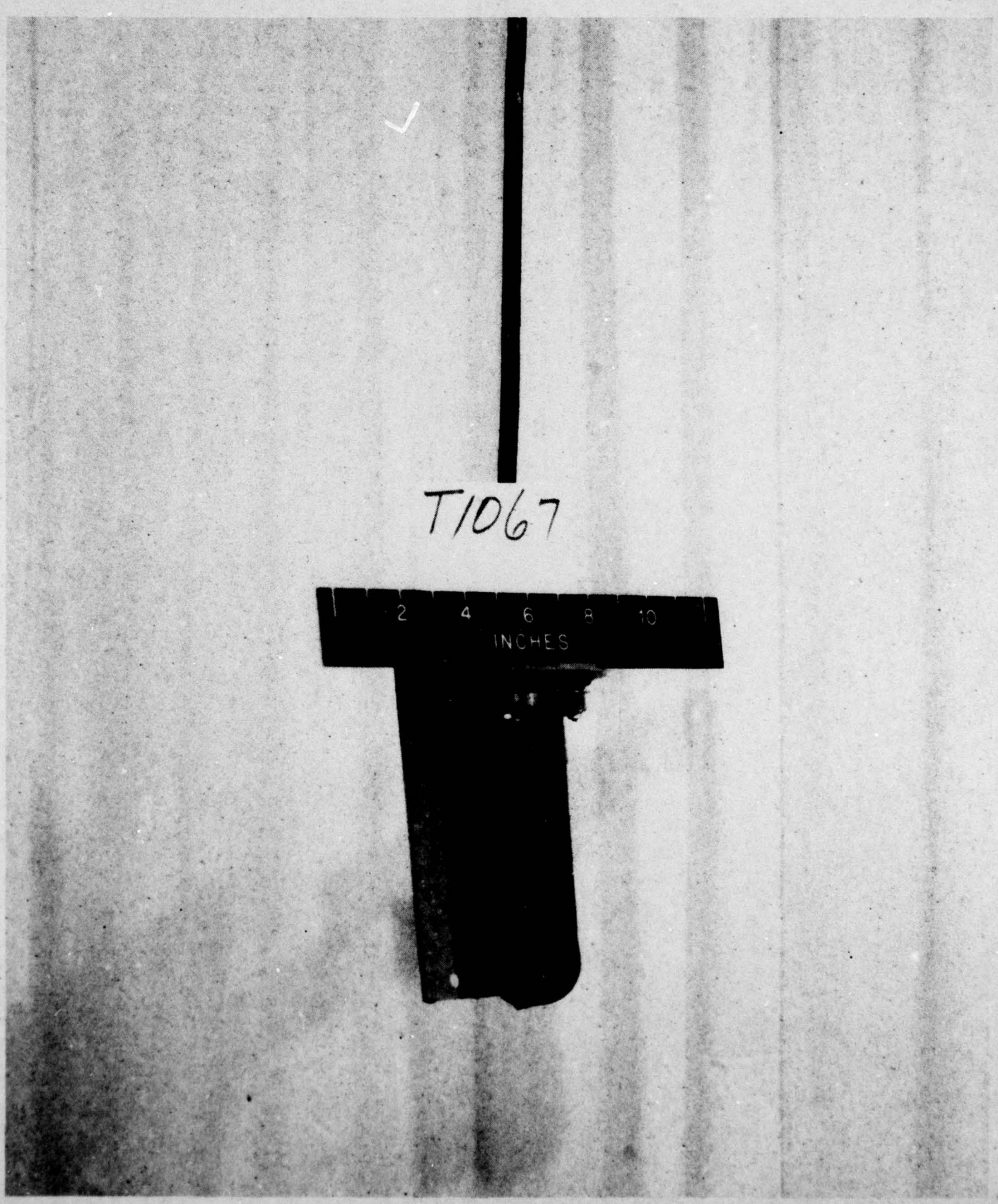
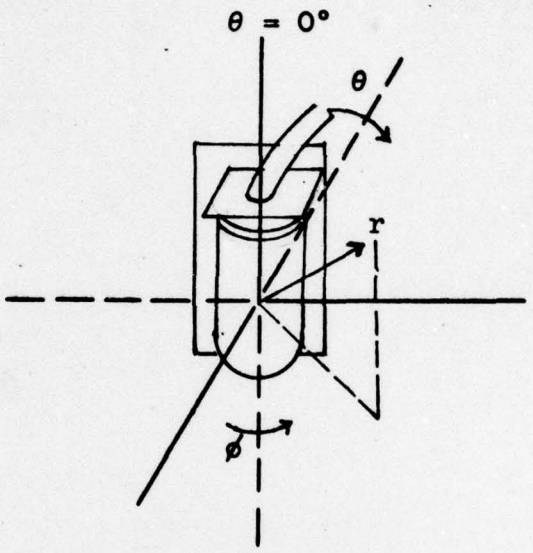

T1067
2
4
6
8
10
INCHES

TRANSDUCER COORDINATE DIAGRAM



The spherical coordinate system is used to define the angles in the directivity pattern: θ and ϕ shown in the above diagram give the directions in which the response is measured. The transducer is placed in the frame of reference with its axis of symmetry coincident with $\theta = 0°$, its fiducial mark in the $\phi = 0°$ plane, and its center at $r = 0$.

The two patterns most frequently measured are:

(1) those made by holding ϕ constant at some angle and rotating θ through 360°.

(ϕ = a°; rotate θ)

(2) those made by holding θ constant at some angle and rotating ϕ through 360°.

(θ = b°; rotate ϕ)

K&E 10 X 10 TO ½ INCH 46 1327
7½ X 10 IN. • ALBANENE MADE IN U.S.A.
KEUFFEL & ESSER CO.

Measured at TRANSDEC
9 February 1968

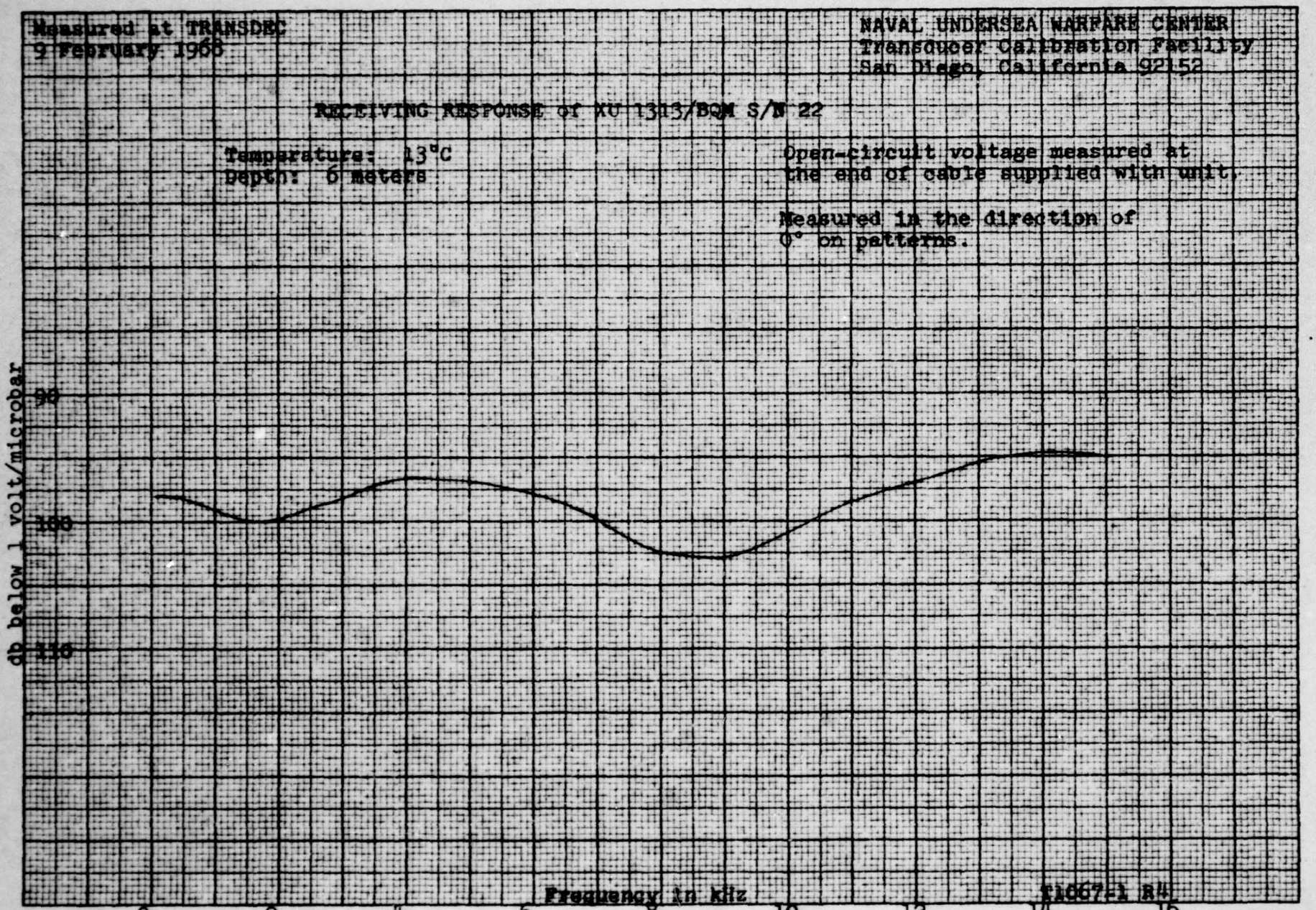
NAVAL UNDERSEA WARFARE CENTER
Transducer Calibration Facility
San Diego, California 92152

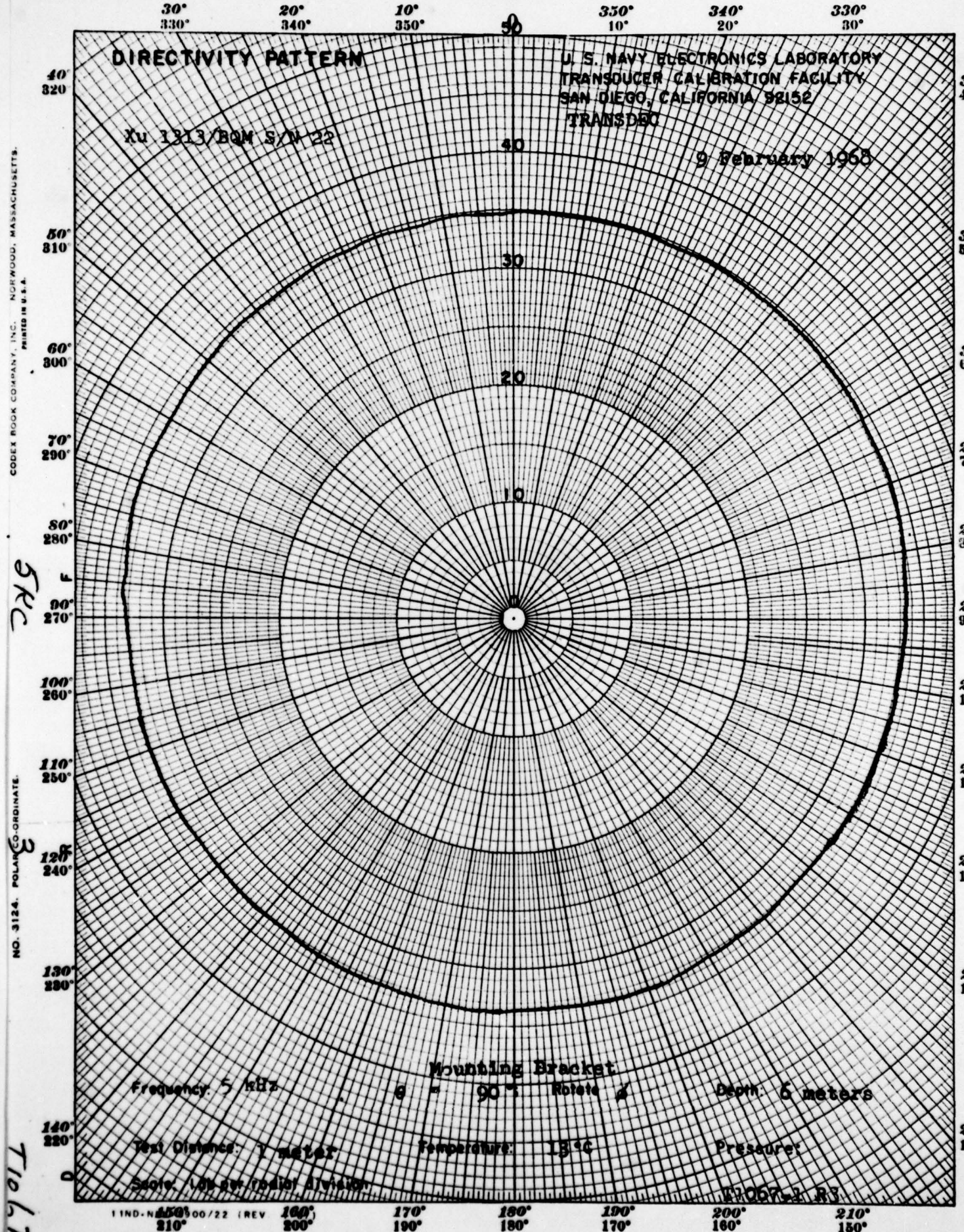
RECEIVING RESPONSE of XU 1313/BQM S/N 22

Temparature: 13°C
Depth: 6 meters

Open-circuit voltage measured at the end of cable supplied with unit.

Measured in the direction of 0° on patterns.

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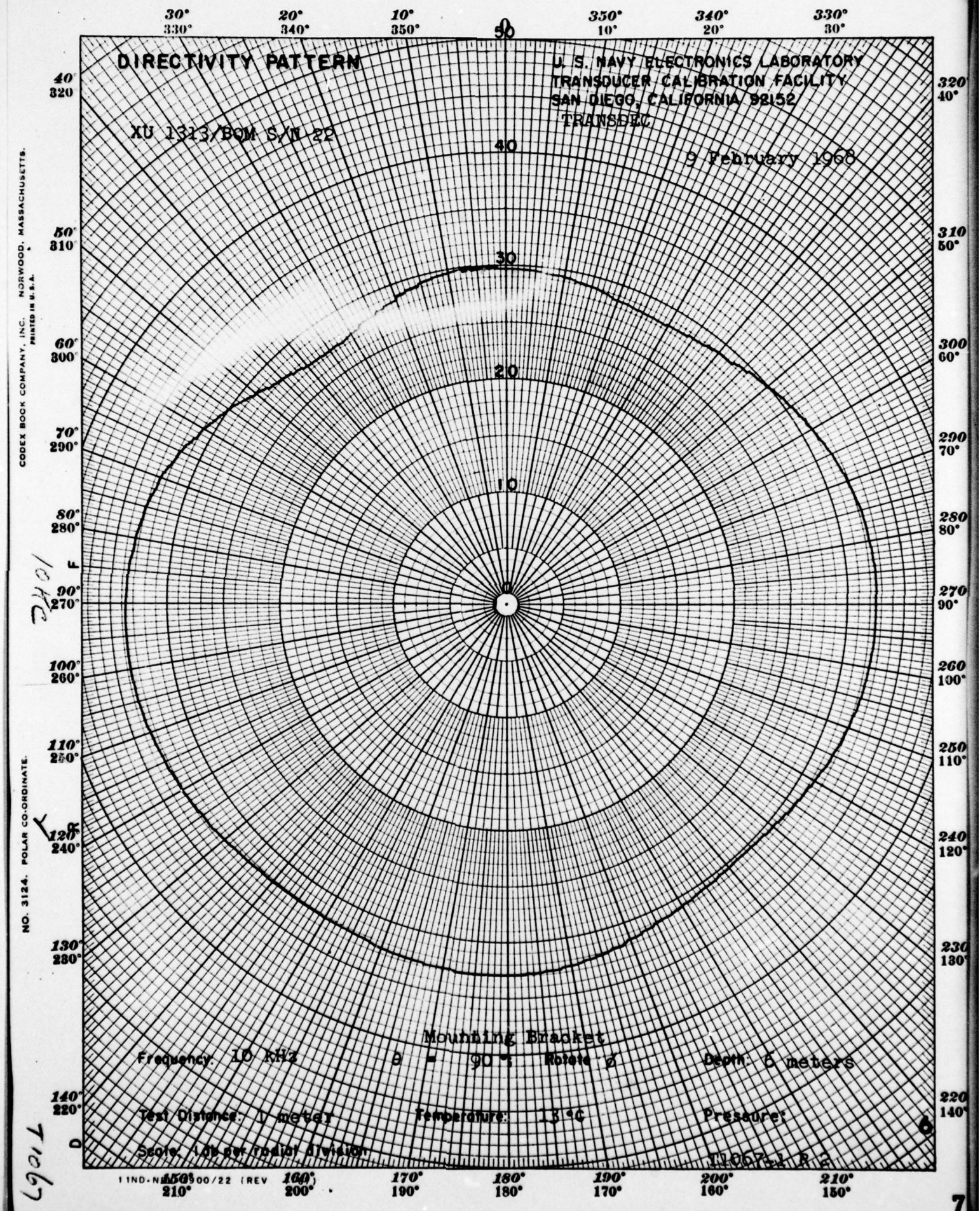
TRANSDUCER CALIBRATION FACILITY
SAN DIEGO, CALIFORNIA 92152
TRANSDEC
Xu 1313/BQM S/N 22
9 February 1968
Mounting Bracket
Frequency: 5 kHz
θ = 90°
Rotate ϕ
Depth: 6 meters
Test Distance: 1 meter
Temperature: 13°C
Pressure:
Scale: 1db per radial division
T1067-1 R3
CODEX BOOK COMPANY, INC. NORWOOD, MASSACHUSETTS. PRINTED IN U.S.A.
NO. 3124. POLAR CO-ORDINATE.
5KC
3
T1067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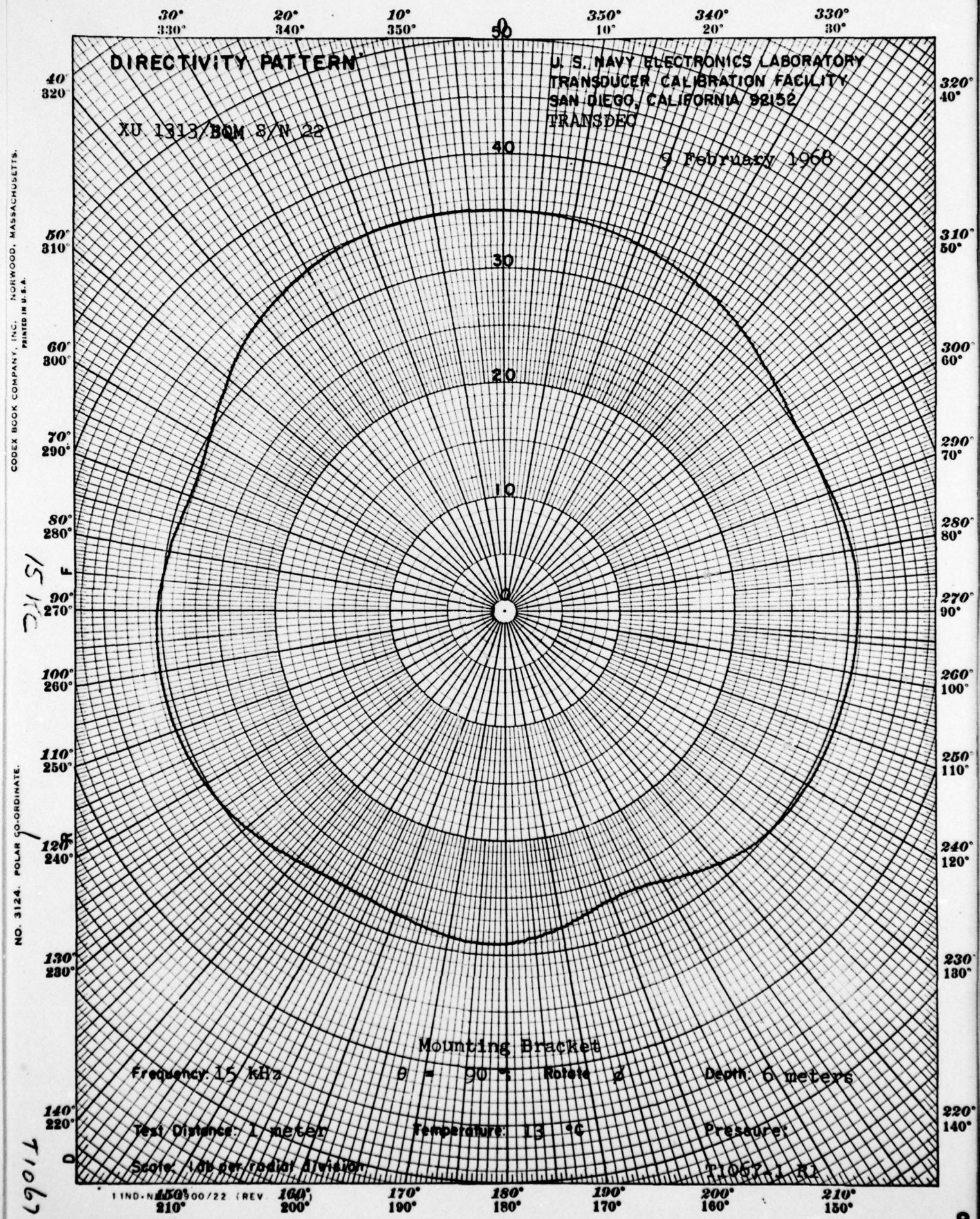
TRANSDUCER CALIBRATION FACILITY
SAN DIEGO, CALIFORNIA 92152
TRANSDEC
XU 1313/BQM S/N 22
9 February 1968
Mounting Bracket
Frequency: 10 kHz
θ = 90°
Rotate ø
Depth: 6 meters
Test Distance: 1 meter
Temperature: 13 °C
Pressure:
Scale: 1 db per radial division
T1067-1 R 2
CODEX BOOK COMPANY, INC. NORWOOD, MASSACHUSETTS. PRINTED IN U.S.A.
NO. 3124. POLAR CO-ORDINATE.
10 KC
T1067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TRANSDUCER CALIBRATION FACILITY
SAN DIEGO, CALIFORNIA 92152
TRANSDEC
XU 1313/BQM S/N 22
9 February 1968
Mounting Bracket
Frequency: 15 kHz
θ = 90 °
Rotate ø
Depth: 6 meters
Test Distance: 1 meter
Temperature: 13 °C
Pressure:
Scale: 1 db per radial division
T1067-1 R1
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NO. 3124. POLAR CO-ORDINATE.
15 KC
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K&E 10 X 10 TO ½ INCH 46 1327
7½ X 10 IN. • ALBANENE MADE IN U.S.A.
KEUFFEL & ESSER CO.

Measured at TRANSDEC
9 February 1968

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Transducer Calibration Facility
San Diego, California 92152

EFFECT of PRESSURE on XU1313/BQM S/N 22

Temperature: 13°C
Pressure: 2000 psig
(5th cycling)

Open-circuit voltage.

db referred to 0 psig

0
-10

Frequency in kHz

0 2 4 6 8 10 12 14 16

T1067-1 Fig 10 & 16

K&E 10 X 10 TO ½ INCH 46 1327
7½ X 10 IN. • ALBANENE MADE IN U.S.A.
KEUFFEL & ESSER CO.

Measured at TRANSDEC
9 February 1968

NAVAL UNDERSEA WARFARE CENTER
Transducer Calibration Facility
San Diego, California 92152

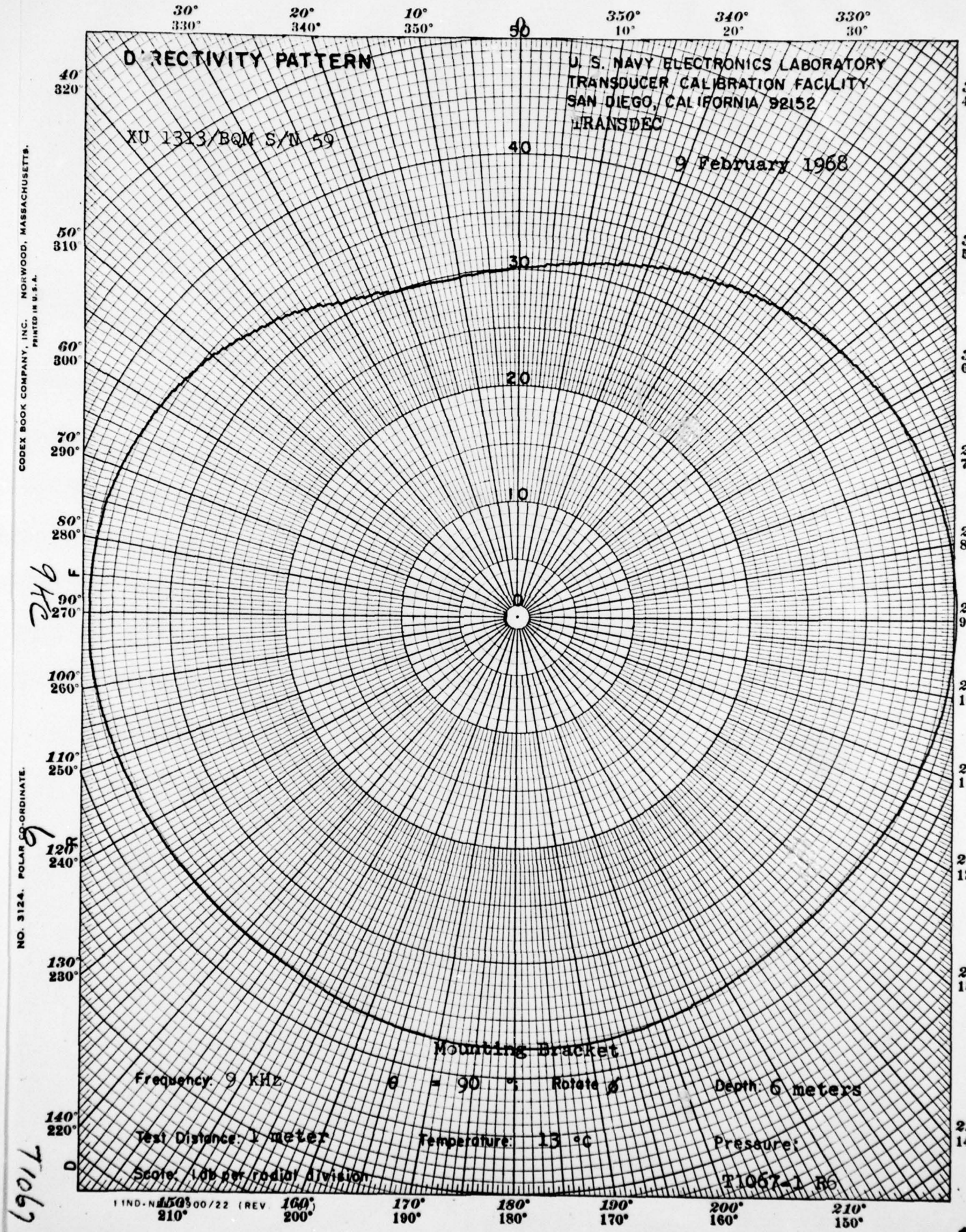
RECEIVING RESPONSE of XU 1313/BQM S/N 59

Temperature: 13°C
Depth: 6 meters

Open-circuit voltage measured at the end of cable supplied with unit.

Measured in the direction of 0° on patterns.

T1067-1 RS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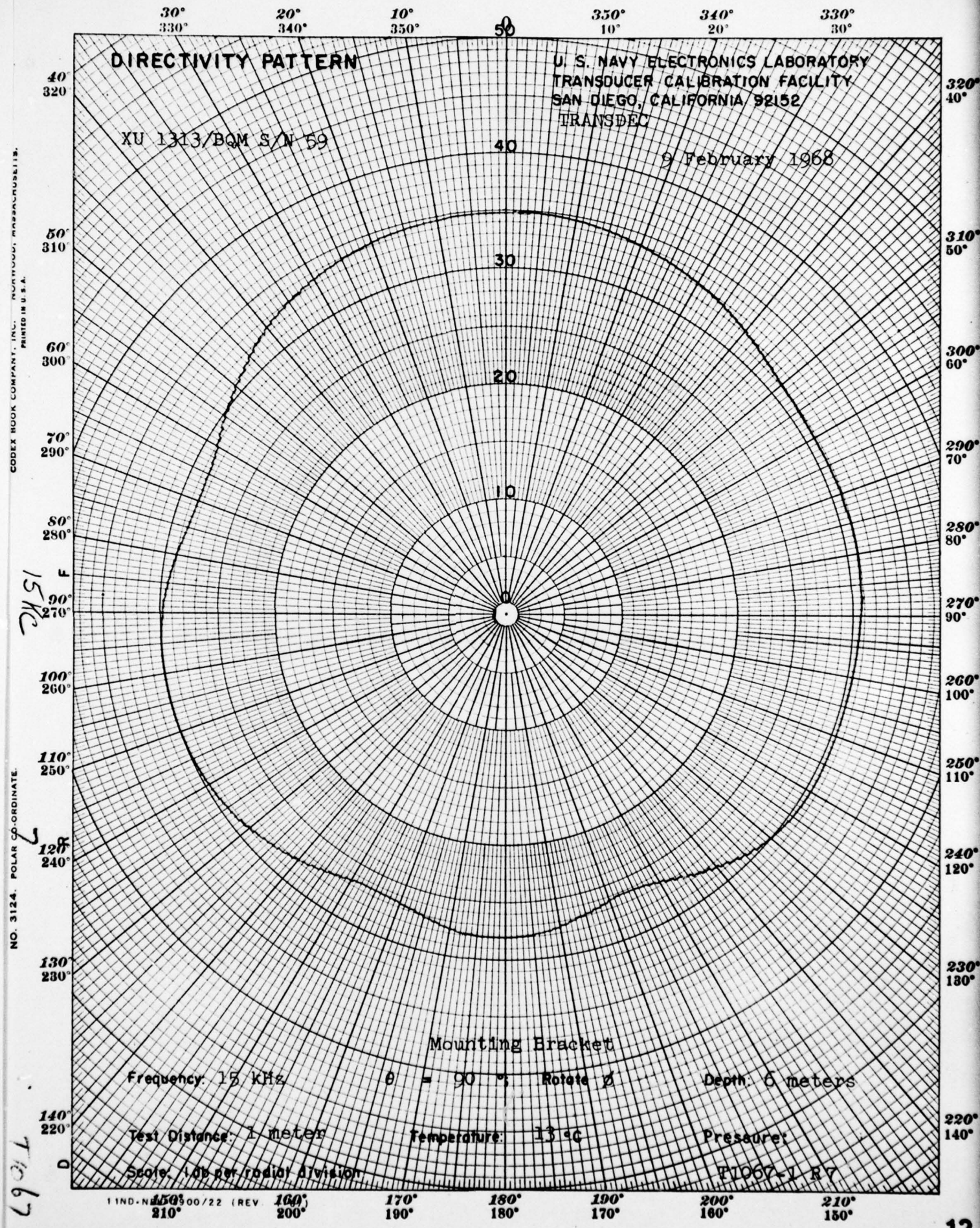
U. S. NAVY ELECTRONICS LABORATORY
TRANSDUCER CALIBRATION FACILITY
SAN DIEGO, CALIFORNIA 92152
TRANSDEC
XU 1313/BQM S/N 59
9 February 1968
Mounting Bracket
Frequency: 9 kHz
θ = 90 °; Rotate ø
Depth: 6 meters
Test Distance: 1 meter
Temperature: 13 °C
Pressure:
Scale: 10b per radial division
T1067-1 R6
CODEX BOOK COMPANY, INC. NORWOOD, MASSACHUSETTS. PRINTED IN U.S.A.
NO. 3124. POLAR CO-ORDINATE.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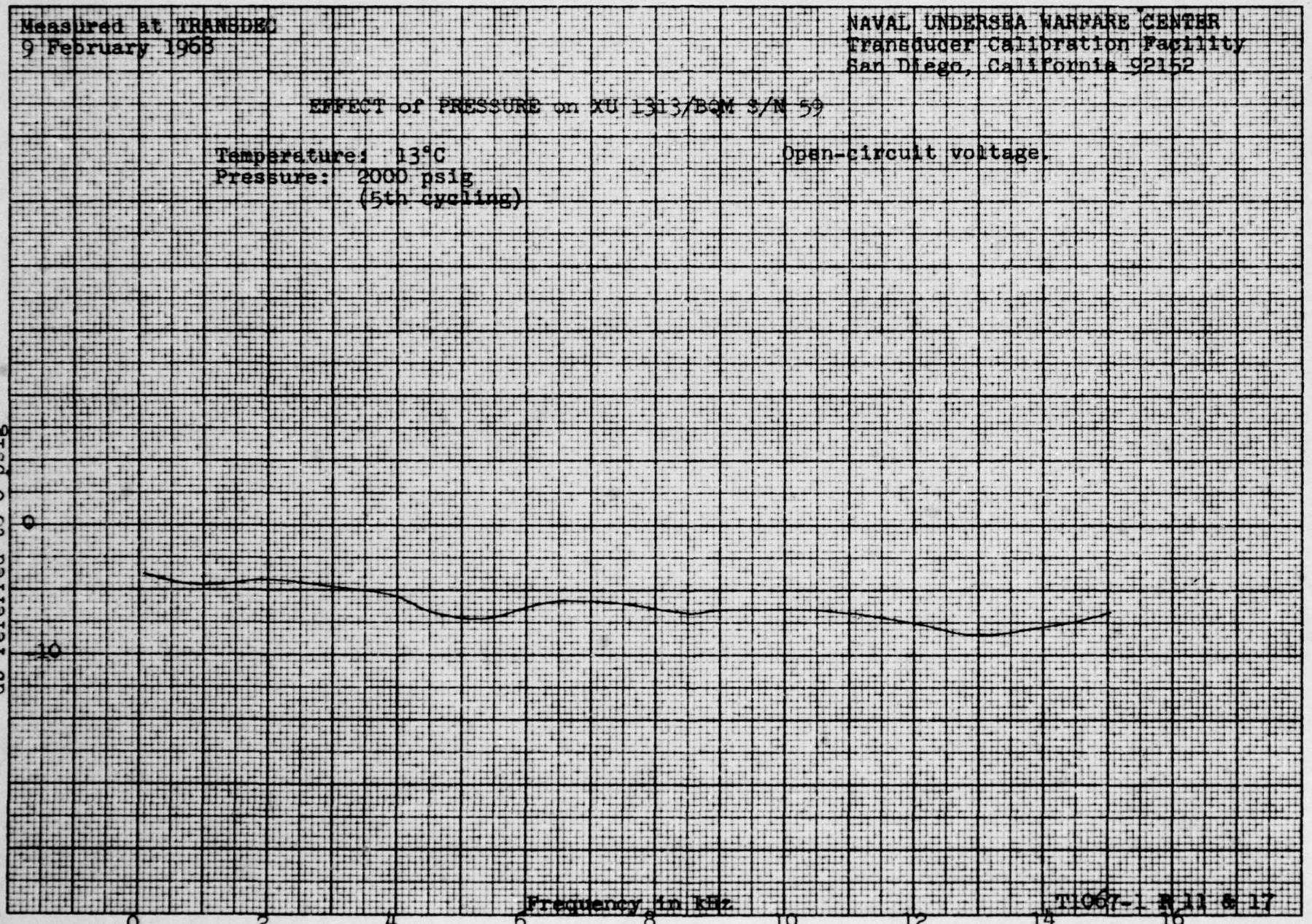
TRANSDUCER CALIBRATION FACILITY
SAN DIEGO, CALIFORNIA 92152
TRANSDEC
XU 1313/BQM S/N 59
9 February 1968
Mounting Bracket
Frequency: 15 kHz
θ = 90 °
Rotate ø
Depth: 6 meters
Test Distance: 1 meter
Temperature: 13 °C
Pressure:
Scale: 1db per radial division
T1067-1 R7
CODEX BOOK COMPANY, INC. NORWOOD, MASSACHUSETTS. PRINTED IN U.S.A.
NO. 3124. POLAR CO-ORDINATE.
15 KC
7
T1067

46 1327
KEUFFEL & ESSER CO.



K&E 10 X 10 TO ½ INCH 4G 1327
7½ X 10 IN. • ALBANY N.Y. MADE IN U.S.A.
KEUFFEL & ESSER CO.

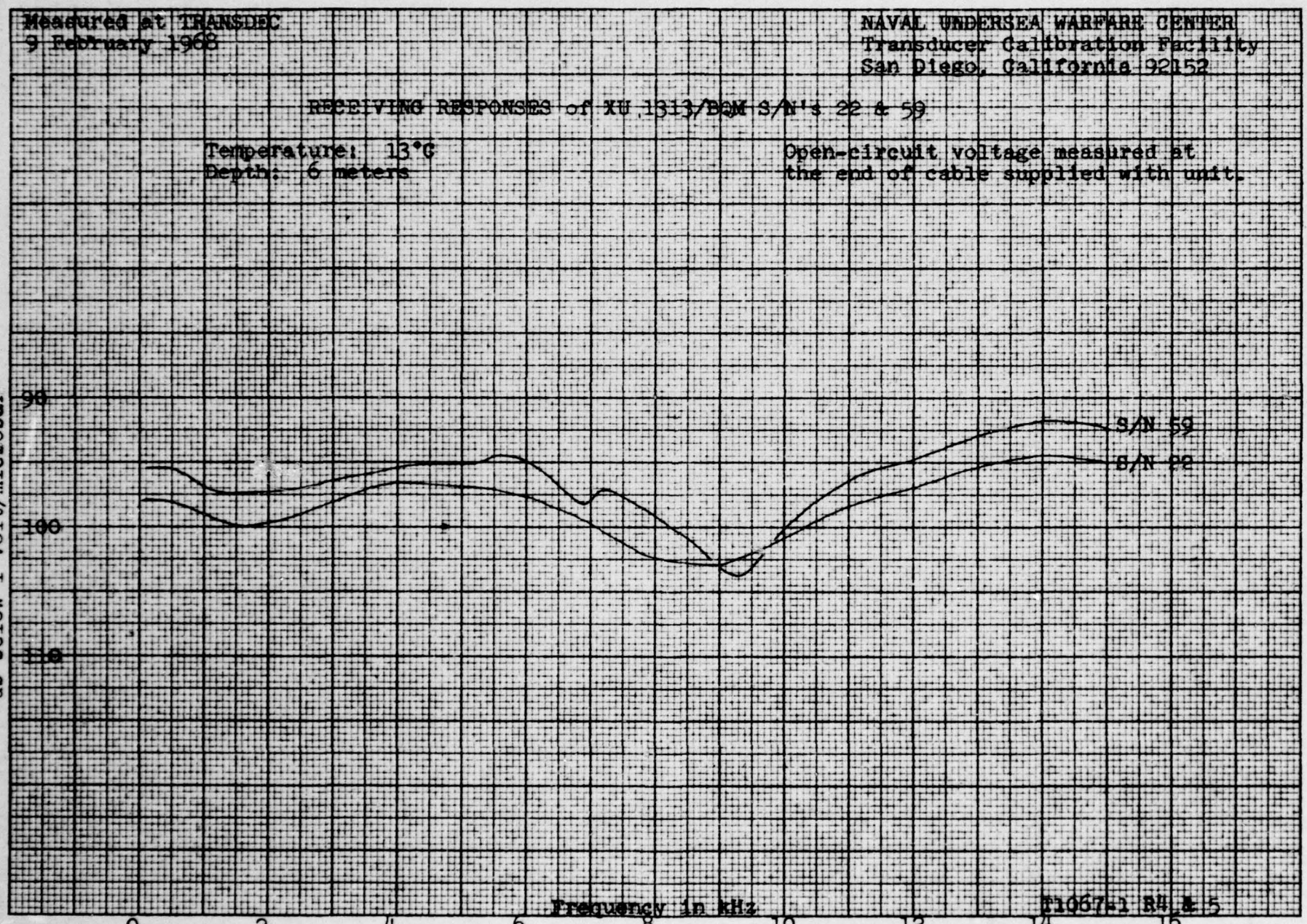
Measured at TRANSDEC
9 February 1968

NAVAL UNDERSEA WARFARE CENTER
Transducer Calibration Facility
San Diego, California 92152

RECEIVING RESPONSES of XU 1313/BQM S/N's 22 & 59

Temperature: 13°C
Depth: 6 meters

Open-circuit voltage measured at the end of cable supplied with unit.



T1067-1 R4 & 5

K&E 10 X 10 TO ½ INCH 46 1327
7½ X 10 IN. • ALBANENE MADE IN U.S.A.
KEUFFEL & ESSER CO.

Measured at TRANSDEC
9 February 1968

NAVAL UNDERSEA WARFARE CENTER
Transducer Calibration Facility
San Diego, California 92152

EFFECT of PRESSURE on XU 1313/BQM S/N's 22 & 59

Temperature: 13°C
Pressure: 2000 psig
(5th cycling)

Open-circuit voltage.

db referred to 0 psig

0

-10